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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER				
SCHWARTZ, JORDAN MARC				
ART UNIT		PAPER NUMBER		
2873				
NOTIFICATION DATE		DELIVERY MODE		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/549,919

Applicant(s)

KURODA ET AL.

Examiner

Jordan M. Schwartz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Examiner's Comments

In the final rejection dated January 17, 2008, the examiner inadvertently did not address claims 10-11. Therefore, this supplemental final rejection is being sent out restarting applicant's time to respond.

Specification

The specification is objected to for the following reason. In Table 13, page 39, the computed values for "VdAv -VdL1" are inconsistent with applicant's presumed meaning of "VdAv". Specifically, the computed values in Table 13 are based upon VdAv as "the average of the Abbe numbers of the lenses of the first lens group having a positive refractive power subsequent to and including the second lens of the first lens group...". From applicant's arguments received November 5, 2007, the presumed intended meaning of VdAv is "the average of the Abbe numbers of the lenses of the zoom lens having a positive refractive power subsequent to the second lens of the first lens group" (and see the claim objection to claims 3-4 below). Therefore, based upon this presumed meaning, the values of VdAv-VdL1 in Table 13 should be corrected. The examiner computed these corrected values as follows: for example 1, VdAv-VdL1 = 31.97, for example 2, VdAv-VdL1 = 25.15, for example 3, VdAv-VdL1 = 32.10, and for example 4, VdAv-VdL1 = 27.58.

Claim Objections

Claim 1 is objected to because of the following informality: with respect to claim 1 line 11, the claimed "in the order" should be corrected to "in this order" to provide additional clarity. Appropriate correction is required.

Claims 3 and 4 (and their respective dependent claims) are objected to for the following reasons. Since the apparent intended meaning could be determined from applicant's arguments received November 5, 2007 and since applicant's apparent intended meaning is supported by the examples within the specification as originally filed, 112 rejections were not made but instead this lack of clarity issue is being raised in the following claim objection.

With respect to claims 3 and 4, from applicant's arguments, apparently VdAv is "the average of the Abbe numbers of the lenses of the zoom lens having a positive refractive power subsequent to the second lens of the first lens group..." however, this is inconsistent with the values for VdAv computed in applicant's Table 13 on page 39 of the specification creating a lack of clarity. Specifically, the values for VdAv -VdL1 in Table 13 are apparently determined based upon VdAv as "the average of the Abbe numbers of the lenses of the first lens group having a positive refractive power subsequent to and including the second lens of the first lens group...". Based upon applicant's arguments of November 5, 2007 it is suggested that applicant change claims 3-4 to state VdAv is "the average of the Abbe numbers of the lenses of the zoom lens having a positive refractive power subsequent to the second lens of the first lens group" to provide additional clarity. However, Table 13 of page 39 of applicant's specification

would then be required to be corrected to be consistent with this presumed meaning as set forth in the specification objection above. This presumed interpretation would not present prohibited new matter since the values determined for equation "4" of claims 3 and 4 from applicant's examples would still be "> 15".

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mihara publication number 2006/0158742 in view of Nakayama patent number 5,847,882.

With respect to claims 1 and 5-9, Mihara discloses the limitations therein including the following: a zoom lens (abstract) comprising a first lens group fixed for zooming having a positive refractive power (abstract, Figures 24-25, Eighth Embodiment, "G1", paragraphs 365 and 371); a second lens group having a negative refractive power (abstract, Figures 24-25, Eighth Embodiment, "G2", paragraph 367); a third lens group having a positive refractive power (abstract, Figures 24-25, Eighth Embodiment, "G3", paragraph 368); a fourth lens group having a negative refractive power (abstract, Figures 24-25, Eighth Embodiment, "G4", paragraph 369); a fifth lens group having a positive refractive power (abstract, Figures 24-25, Eighth Embodiment, "G5"); the second lens group moving for zooming (paragraph 371); the first lens group

comprising a single lens having a negative refractive power (Figure 24, Eighth Embodiment, paragraph 365, L₁₁); a reflective member to bend the optical path through 90 degrees (Figure 24, Eighth Embodiment, paragraphs 365-366, R1); and at least a second lens having positive refractive power (Figure 24, Eighth Embodiment, paragraph 365, L₁₂); the third lens group having an iris aperture (Figure 24, Eighth Embodiment, aperture "S"); and an image sensing device to convert an optical image into an electrical signal (paragraphs 0002 and 0009).

With respect to claims 1 and 5-9, Mihara discloses as is set forth above including disclosing the zoom lens system of plus minus plus minus plus construction having only two lens groups moving for zooming and having the fourth lens group of a single lens (Figure 24, Eighth Embodiment, paragraph 371) but discloses the second and third lens groups moving for zooming with the fourth lens group fixed (Figure 24, Eighth Embodiment, paragraph 371) and not the second and fourth lens groups moving for zooming with the third lens group fixed as claimed. Nakayama teaches that in a zoom lens system of plus minus plus minus plus construction (abstract, Figures 1 and 2) and having only two lens groups moving for zooming and with a fourth lens group of a single lens only (abstract, Figures 1 and 2) that it is desirable to have the second and fourth lens groups moving for zooming with the third lens group fixed for the purpose of providing a zoom lens system of a simplified zooming means and improved space efficiency (column 2, lines 31-52, column 5, lines 40-51). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have in the zoom lens system of Mihara, the second and fourth lens groups moving for

zooming with the third lens group fixed since Nakayama teaches that in a zoom lens system of similar structure to that of Mihara, it is desirable to have the second and fourth lens groups moving for zooming with the third lens group fixed for the purpose of providing a zoom lens system of simplified zooming and of improved space efficiency. Furthermore by having the fourth lens group moving for zooming, the fourth lens group will inherently move in at least one direction when the second and fourth lens groups are moved for zooming i.e. "moved in one direction when the second and fourth lens group are moved for zooming".

With respect to claims 2-4, Mihara and Nakayama disclose and teach as set forth above and Mihara further discloses the satisfaction of the first condition of claim 2 (Eighth Embodiment, $D1/Fw = 3.28$); and the satisfaction of the first condition of claims 3 and 4 (Eighth Embodiment, $NdL1 = 1.81$). Mihara discloses as is set forth above and further discloses $D1/Ft = 1.1$ (Eighth Embodiment) i.e. just outside of the claimed range of " < 1.0 " and discloses $VdAv - VdL1 = 14$ (Eighth Embodiment) i.e. just outside of the claimed range of " > 15 ". It has been held that where the claimed ranges and prior art do not overlap but are close enough that one skilled in the art would have expected them to have the same properties, a prima facie case of obviousness exists. Titanium Metals Corporation of America, 227 USPQ 773 (Fed Cir. 1985). Since these differences in overlapping ranges are so minimal, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the lens system of Mihara as modified by Nakayama as satisfying the $D1/Ft$ and $VdAv - VdL1$ conditions since the claimed ranges closely approximate the suggested values taught by Mihara.

With respect to claims 10-11, Mihara discloses as is set forth above but does not specifically disclose the fourth lens group, i.e. the compensator moving in a non-linear curved manner. However, as stated above, Nakayama teaches that the fourth lens group can be the compensator and Mihara further teaches that in a zoom lens system having an object side lens group moveable as the variator and an image side lens group moveable as the compensator, that it is desirable to have the compensator moving in a linear non-curved fashion for the purpose of providing the zooming compensation function (paragraph 371, figure 25). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the fourth lens group i.e. the compensator moving in a non-linear curved manner since Nakayama teaches that the fourth lens group can be the compensator and Mihara further teaches that in a zoom lens system having an object side lens group moveable as the variator and an image side lens group moveable as the compensator, that it is desirable to have the compensator moving in a linear non-curved fashion for the purpose of providing the zooming compensation function.

Response to Arguments

Applicant's arguments filed November 5, 2007 have been fully considered but they are not persuasive. Specifically, applicant argues that the Nakayama is moving in a convex locus and therefore is not moving in only one direction. However, applicant is arguing a limitation that has not been claimed. Claims 1 and 9 are not claiming that the 'fourth lens group is moved in only one direction when the second and fourth lens groups are moved for zooming from a wide angle end to a telephoto end. Instead,

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applicant is broadly claiming the fourth lens group "moving in one direction" i.e. "at least one direction". Based upon it's movement the fourth lens group will inherently move in at least one direction thereby reading on this limitation.

Examiner's Comments

For applicant's information, the examiner called applicant's representatives with proposed changes to try and put the application in condition for allowance. However, a timely resolution could not be reached prompting this final rejection. Applicant is now after final and any changes to the claims would probably present new issues requiring further consideration and searching.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jordan M. Schwartz whose telephone number is (571) 272-2337. The examiner can normally be reached on Monday to Friday from 8:00 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Mack can be reached on (571) 272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jordan M. Schwartz
Primary Examiner
Art Unit 2873
February 26, 2008

/Jordan M. Schwartz/
Primary Examiner, Art Unit 2873